

Greater Sullivan Neighborhood Design Guidelines

Department of Planning and Landscape Architecture
Clemson University

Greater Sullivan Neighborhood Design Guidelines

Table of Contents

Table of Contents

Introduction	3
I. Housing	
1. Introduction	5
2. Single- and Two-Family Housing	6
3. Multi-Family Housing	7
4. Porches	8
5. Building Materials	9
6. Architectural Style	10
II. Lot Configuration	
1. Introduction	12
2. Lot Size	13
3. Setbacks	14
4. Driveways	15
5. Landscaping and Trees	16
6. Fencing	17
7. Retaining Walls	18
III. Streetscape	
1. Introduction	19
2. Sidewalks	20
3. Curb Lawns and Street Trees	23
4. Traffic Calming	25
5. Intersections	28
6. Lighting and Utilities	29
IV. Appendix	30
V. Glossary	31

Greater Sullivan Neighborhood Design Guidelines



Introduction

The Greater Sullivan Neighborhood is an old, well established part of the Greenville community. The neighborhood grew to maturity in the early 20th century in tandem with the Mills Manufacturing Company, which was located on the southwestern edge of the neighborhood. Sanborn Insurance maps reflect that Greater Sullivan was platted and nearly filled out with homes by 1923 (**Fig. 2**). Today, Greater Sullivan boasts a friendly residential atmosphere that is within a short distance of downtown Greenville, and is in walking distance of Fluor Field and the West End (**Fig. 1**). While many residents of the Greater Sullivan neighborhood are third or fourth generation, the neighborhood continues to attract a mix of new residents as well. New and old residents both share a sense of community and, as one resident stated, they are proud to live in a community with a “purpose.”

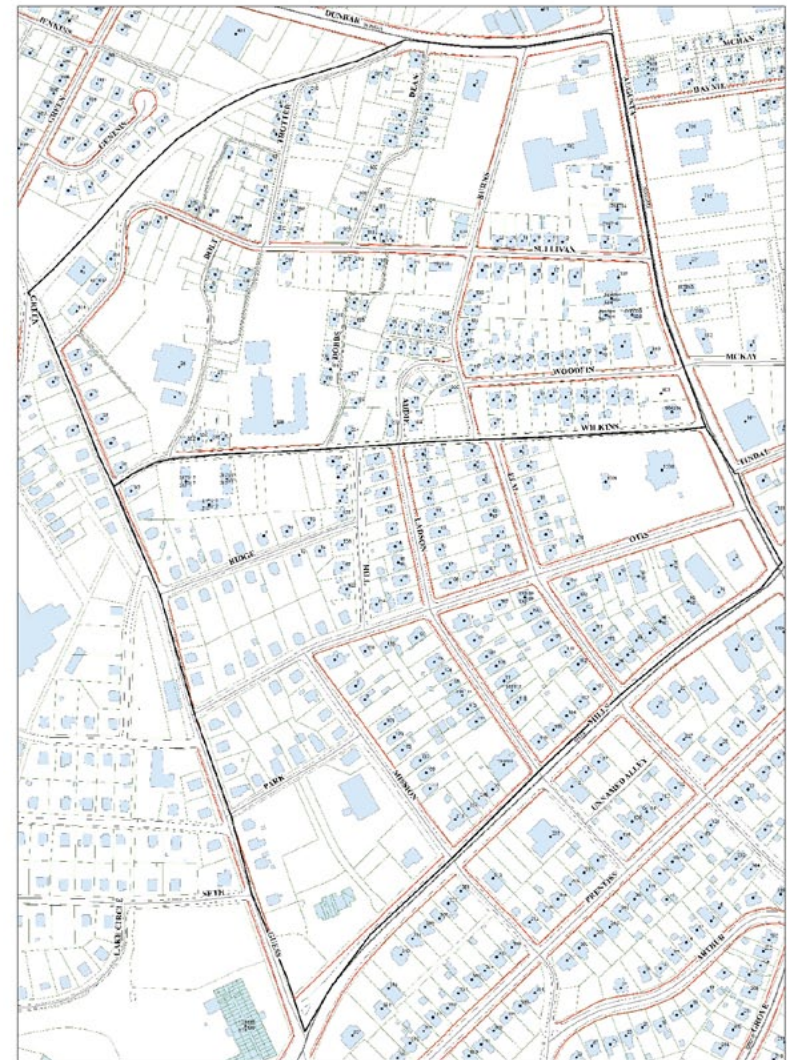
Like the rest of the City of Greenville, the Greater Sullivan Neighborhood was recently involved in helping to create, Plan-it Greenville, a 2009 comprehensive plan to guide future development and change in the City of Greenville. Neighborhood design guidelines are part of Plan-it Greenville’s strategy to preserve neighborhood integrity. Other relevant principles from Plan-it Greenville that apply to the design guidelines are: encouraging compact and mixed use development while preserving neighborhood character, creating walkable spaces, and encouraging sustainable growth, to name a few.

Of particular relevance to these guidelines is the principle of sustainability. Sustainability seeks to provide the best outcomes for our human and natural environments, both now and in the future. While we plan for future development and change, we can choose to do so in a manner that supports the quality of life we want for our generation and for future generations. The design guidelines set forth in this document take sustainability seriously and have seen to its application in a number of ways. The leaf icon on the left indicates a sustainable principle recommended for the neighborhood. In addition, a Sustainability Appendix has been included to further explain and provide additional information about sustainability principles and applications.

Being a community with purpose, the Greater Sullivan Neighborhood has agreed to participate in this pilot project to develop a set of design guidelines which encourage preservation of the existing character of the neighborhood and promote growth and change within the framework of this character. These guidelines do not aim to dictate architectural style or provide precise technical specifications for development; rather, they aim to help preserve neighborhood character through a number of simple yet distinctive recommendations.

 sustainable principle  local, state or federal statute *italicized words* see glossary

Greater Sullivan



Legend

- Greater Sullivan Neighborhood Boundaries
- Buildings
- Major Roads
- Secondary Roads
- Property Lines
- Sidewalks
- Addresses




Fig. 1 Current Map of Greater Sullivan Neighborhood

Greater Sullivan Neighborhood Design Guidelines

Introduction

The design guidelines for the Greater Sullivan Neighborhood are the result of a multi-step public process. This process included an initial community meeting which asked residents to reflect on and identify the positive and negative qualities of their neighborhood and what they wanted to see in the future. Clemson University graduate students compiled this input and drafted a set of design guidelines which residents then reviewed to make sure it was truly reflective of their vision for the neighborhood. These final design guidelines were then submitted to the City of Greenville.

 Any guideline that references local, state, or federal statute or regulation will be denoted by the book icon on the left. Also, words in this document written in italics are defined in the glossary at the end of the document.

Comparing current maps to the Sanborn Maps from 1923, the Greater Sullivan Neighborhood as whole seems to have become slightly less dense (**Fig. 2**). An area of particular note is the piece of land in the northern section of the neighborhood between Burns, Dunbar, and Sullivan streets. In 1923, this was a densely populated area of frame houses and now is home to athletic fields and the Juanita Butler Community Center. The southern portion of the neighborhood appears to have maintained a very similar density over the decades. A comparison of Sanborn Maps from 1923 with a current aerial map reflects that the Greater Sullivan Neighborhood has retained its general character as a neighborhood of primarily single family, wood frame homes, with little multi-family housing and only a smattering of commercial uses along its edges.

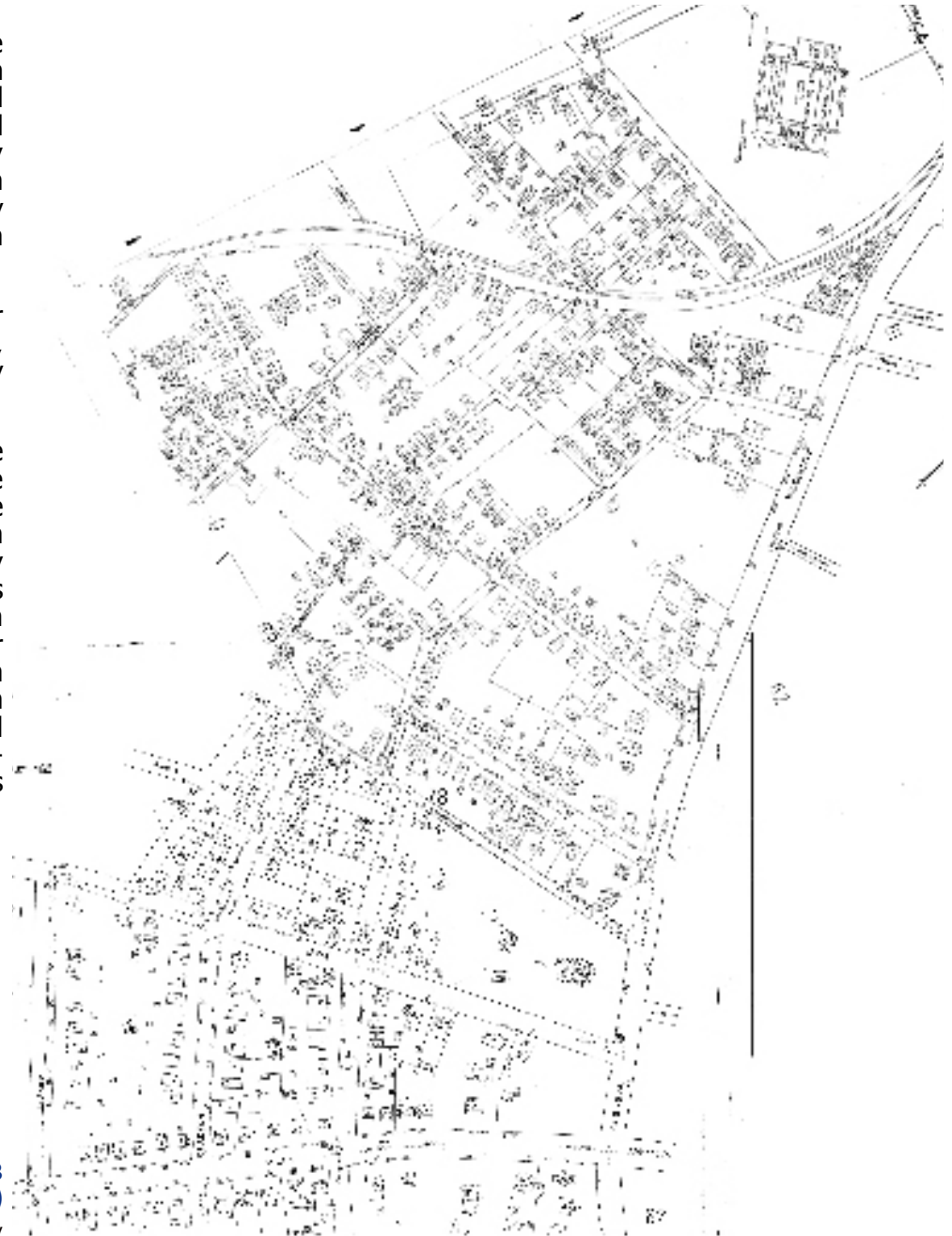


Fig. 2 Sanborn Insurance Map, November, 1923
(two panels combined)



sustainable principle



local, state or federal statute *italicized words* see glossary

The Greater Sullivan Neighborhood is characterized by a mix of housing options, including single-family detached, duplexes, and small apartment complexes. Future residential development should maintain this diversity of housing types and also preserve the character and scale of the neighborhood. Other goals for new residential development include affordability, energy-efficiency, environmental sustainability, and walkability.

Greater Sullivan Neighborhood housing design guidelines are discussed in terms of:

- Single- and Two-Family Housing
- Multi-Family Housing
- Porches
- Materials
- Architectural Styles



Greater Sullivan Neighborhood Design Guidelines

Single- and Two-Family Housing

Single-family detached housing comprises the historic foundation of the Greater Sullivan Neighborhood. To preserve neighborhood character and promote affordability and walkability, the following single- and two-family housing guidelines are proposed.

- Unit *massing* and *scale* should be compatible with that of adjacent and neighboring units.
- Unit height should be 35 feet or less, measured from average grade along the front of building to average height of roof. Unit street frontage width should be between 18 and 50 feet.
- A unit should share, or incorporate in their overall design, architectural elements consistent with adjacent or neighboring units.
- Unit *fenestration* should be at least 25 percent of total front facade area, which comprises the total area of a building front.
- Unit front facade should be oriented towards the street. Garages and accessory structures should be located at the rear of the unit or in the side yard.
- Garages and accessory structures should follow the general development and operational standards for accessory uses and structures found in Section 19-4.4.2 of the City's Land Management Ordinance.



Fig. 3 This sketch depicts a smaller single-family housing unit.



Fig. 4 This sketch shows a middle-sized single-family housing unit



Fig. 5 This sketch illustrates a large single-family housing unit. The above sketches exemplify the desired character, massing, and scale for single-family housing in the Greater Sullivan neighborhood.

Greater Sullivan Neighborhood Design Guidelines

Multi-Family Housing

Future development will bring increased multi-family housing options to the Greater Sullivan Neighborhood. Multi-family units shall comply with the City of Greenville's *Design Principles and Guidelines for Multifamily Residential Development*. Multi-family units should also comply with the following proposed guidelines.

- Unit *massing* and *scale* should be compatible with that of adjacent or neighboring units. **(Fig. 6, 7 ,8)**
- Unit height should be no more than 60 feet from the average grade along the front of building to the average height of the roof. Unit street frontage should be between 30 and 60 feet.
- To prevent visual monotony within units and preserve neighborhood character, multi-family units should use varied façade materials, architectural details, colors, and roof lines.
- Unit *fenestration* should be at least 25 percent of total front façade area which comprises the total surface area of a building front.
- The façade of at least one unit should front the street.



Fig. 6 Clustered housing is a good way to increase housing density while maintaining the established character of the Greater Sullivan Neighborhood.



Fig. 7 This sketch shows a properly scaled and designed multi-family unit.



Fig. 8 A triplex or quadplex should be designed to resemble an appropriately designed single-family unit.

The porch is a defining housing element in the Greater Sullivan Neighborhood. The front porch serves as a semi-public space for residents as well as a transitional space between unit and street. It is a direct interface between residents, neighbors, and passers-by. The side porch is a semi-private space that offers the resident a more discrete connection to the surrounding neighborhood. Both types of porches provide resident visibility and encourage increased neighborhood safety.

- All units should have a street-oriented front porch for each street-oriented front door.
- A front porch should be a “usable” space. Therefore, a front porch should have minimum floor area dimensions of four feet by eight feet.
- A front porch should include architecturally appropriate columns, posts, and railing. A half wall may be appropriate in some cases. A front porch may be screened, but may not be walled or enclosed in glass.
- A side porch should include architecturally appropriate columns, posts, and railing. A half wall may be appropriate in some cases. A side porch may be screened or glassed above railing height. However, a side porch should not be walled in above railing height.
- Porch roofing and foundation materials should be consistent and compatible with the main building.
- A porch should be raised in line with the main floor of the unit to increase visibility and create a distinguishable separation from the surrounding yard.



Fig. 9 This sketch illustrates desirable front porch dimensions.



Fig. 10 This sketch, and the one above, illustrate two well-designed front porches.

Greater Sullivan Neighborhood Design Guidelines

Building Materials

Structures in the Greater Sullivan Neighborhood are characterized by the use of eclectic and varied building materials. Existing units feature a mix of façade and roofing materials. In order to preserve neighborhood character and promote sustainable development, certain building materials are encouraged.

- Facades should be composed of brick, lapped wood, lapped cement board, or high-quality vinyl siding. Concrete block or masonry unit, metal, and stucco are discouraged. **(Fig.11, 12)**
- Roofs that utilize “cool roof” technologies, such as light-colored or treated shingles, are encouraged.
- Insulation, doors, windows, and skylights should be *Energy Star* certified.
- Locally-manufactured materials (those produced within a 500 mile-radius) are preferred. (A-5c)
- Materials that incorporate recycled content, or are produced from sustainably-managed sources, are preferred. (A-5a, A-5b)



Fig. 11 This photograph shows one of the desirable building materials in the neighborhood.



Fig. 12 In this photograph, well-maintained vinyl siding is depicted as another type of desirable material in the neighborhood.

Greater Sullivan Neighborhood Design Guidelines

Architectural Styles

The Greater Sullivan Neighborhood features eclectic, varied architecture from different eras and styles. For example, the neighborhood is home to Arts and Crafts-style bungalows, two-and-a-half story American Foursquare residences, and simple, shotgun-style houses. The key to the architectural suitability of a new unit is how well it fits the context of adjacent units as well as the neighborhood as a whole. (**Fig. 13, 14**)

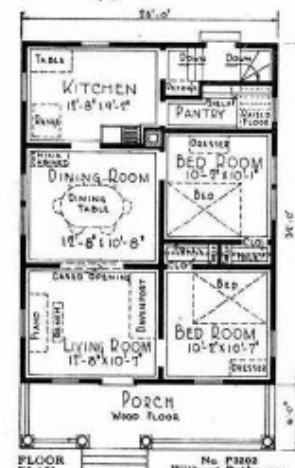
- Units should incorporate architectural elements and details from existing neighborhood housing stock, when appropriate. Such elements include chimneys, columns, rafters, and other trim work.
- Façade siding should be oriented horizontally.
- Varied roof elevations and pitches are encouraged. However, flat roofs, mansard roofs, and roofs with a pitch of 10/12 or greater are discouraged.
- Windows should have vertical sash and should have a height to width ratio between 2:1 and 3:1. These guidelines should not apply to decorative windows (such as those atop an American Foursquare house) or skylights.
- The use of "green" technologies, such as *solar roofing* or *rain barrels*, is encouraged. However, such products should not obscure or detract from the historic character of the neighborhood. (A-2a, D-6)

Fig. 13 Greater Sullivan features many good examples of the bungalow style, which was especially popular in the 1920s. Elements of the bungalow style may be incorporated into future residential development. The "Three-Room Narrow House" was constructed in mill villages throughout the Carolinas near the turn of the century. A number of good examples of this architectural style exist along the narrow lanes north of Sullivan Street. Image source: <http://www.learnnc.org/lp/media/uploads/2008/11/tompk34.jpg>



THE STARLIGHT bungalow is one of our most popular designs. It is dignified and substantial in every detail. Architects and builders say the Starlight has as good an arrangement, considering its size, as it is possible to have. It has the proper number of rooms for the average family. The careful planning, together with our direct-from-factory prices, gives the utmost for the money spent. More than eleven hundred have been built.

The main exterior features of this home are the hip roof which extends over the entire house and porch, the dormer, and the porch with its large columns and porch rail. Here in the Starlight you can enjoy comfort in every room, and on a warm day the shady porch bids you welcome for rest, no there is room for hammock, swing and other porch furniture. The porch is 24 feet by 6 feet, and can be glazed or screened in, making it practicable the twelve months in the year.



Designed for districts where no sewerage or cesspool facilities are available. Very much the same as No. P2309, but without bathroom.

Honor Bill
The Starlight
\$1,424.00 No. P2302 (Without Bathroom)
"Already Cut" and Fitted.
\$1,543.00 No. P2309 (With Bathroom)
"Already Cut" and Fitted.

The Living Room. A three-light door opens into the living room. Size, 12 feet 0 inches by 10 feet 0 inches. There is enough wall space for piano, davenport and other furniture. Two windows and glazed door provide plenty of light and fresh air.

The Dining Room. From the living room a cased opening leads into the dining room. This arrangement makes it possible to use the two rooms as one, if occasion requires it. Size of dining room, 12 feet 0 inches by 10 feet 0 inches. A double window provides an abundance of light and ventilation.

The Kitchen. A swinging door from dining room leads to the kitchen. Size, 12 feet 0 inches by 9 feet 0 inches. The location for sink, range, table and chairs has been planned with a view toward helping the housewife reduce needless steps. The kitchen has a shined pantry in No. P2302 lighted by a window. Kitchen of No. P2309 has a closet with shelf and a pantry. Two windows keep the kitchen bright and well aired. A door leads to rear entry, which has space for ice box, steps to grade and basement. This arrangement permits entrance to basement without going outside.

The Bedrooms. There are two bedrooms. The front bedroom opens from the living room. It has a clothes door and two windows. From the dining room through a cased opening into a small hall, the rear bedroom and bathroom are reached. The rear bedroom, too, has a clothes closet and two windows.

The bathroom has a medicine case, and is lighted by a window.

Basement. Excavated basement under entire house. Room for linen, laundry and storage.

Height of Ceiling. Main floor, 9 feet from floor to ceiling. Basement, 7 feet from concrete floor to joists.

What Our Prices Include
At the prices quoted we will furnish all material to build this five-room bungalow consisting of:

Roofing, Best Grade Clear Red Cedar Shingles;
Siding, Clear Grade Cypress or Clear Red Cedar;
Framing Lumber, No. 1 Quality Douglas Fir or Pacific Coast Hemlock;
Flooring, Clear Grade Douglas Fir or Pacific Coast Hemlock;
Porch Flooring, Clear Grade Edge Grain Fir;
Porch Ceiling, Clear Grade Douglas Fir or Pacific Coast Hemlock;

Finishing Lumber;
High Grade Millwork (see page 108 and 109);
Interior Doors, Five-Cross Panel Design of Douglas Fir;
Trim, Shiplap Grade Douglas Fir or Yellow Pine;
Windows of California Clear White Pine;
Medicine Case for No. P2309;

Recessed Trenches and Doves Spouts;
40-Lb. Building Paper; Sash Weights;
Stratford Design Hardware (see page 120);
Paint for Three Coats Outside Trim and Siding;
Shells and Vaseline for Interior Doors and Trim.

Complete Plans and Specifications.



Can be built on a lot 30 feet wide.
This house can be built with the rooms reversed. See Page 3.

We guarantee enough material to build this house. Prices do not include cement, brick or plaster. See description of "Honor Bill" Houses on pages 12 and 13.

For prices of Plumbing, Heating, Wiring, Electric Fixtures and Shades see pages 140 and 141.

OPTIONS
Sheet Plaster and Plaster Finish, to take for price of wood siding, \$100.00 extra for No. P2309 and \$95.00 extra for No. P2302. See page 142.

Ornamental Asphalt Shingles, instead of wood shingles, \$35.00 extra for No. P2309 and \$32.00 for No. P2302.

4-in-1 Style Oriental Asphalt Slate Surface Strip, Shingles, guaranteed for seventeen years, instead of wood shingles, \$24.00 extra for No. P2309; \$23.00 extra for No. P2302.

Oak Doors, Trim and Floor in living and dining room, Maple Floor in kitchen and bathroom, \$109.00 extra for No. P2309 and \$110.00 for No. P2302.

Storm Doors and Windows, \$52.00 extra for No. P2309 and \$49.00 for No. P2302.

Screen Doors and Windows, galvanized wire, \$18.00 extra for No. P2309 and \$17.00 extra for No. P2302.

Greater Sullivan Neighborhood Design Guidelines

Architectural Styles

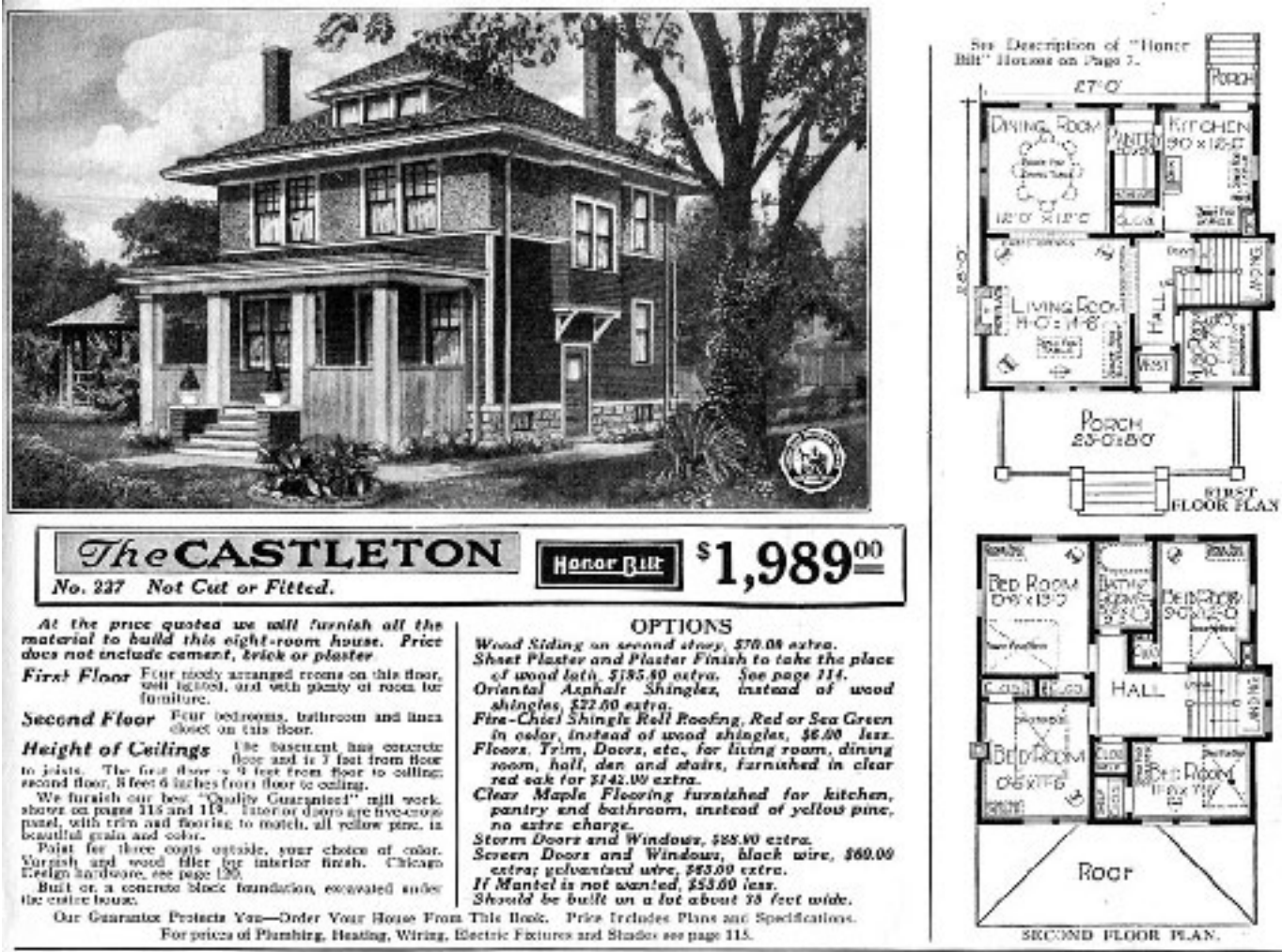


Fig. 14 American foursquare architecture enjoyed wide popularity in the early 1900s. Many good examples of this style, both historic and new, may be found in the Greater Sullivan Neighborhood.

Greater Sullivan Neighborhood Design Guidelines

Introduction to Lot Configuration

Lot configuration refers to the way a building on a piece of property is oriented to the street and certain relevant natural features of the lot. Under lot configuration, design guidelines are suggested for the following lot elements: lot size, setback, driveway, fence/retaining walls, landscaping and trees, and housing orientation.

- Lot Size
- Setbacks
- Driveways
- Landscaping and Trees
- Fencing
- Retaining Walls

Greater Sullivan Neighborhood Design Guidelines

Lot Size

There is variation in lot size throughout the Greater Sullivan Neighborhood, however, there is general uniformity on each street.

- Lot sizes should be consistent by block but can vary by street. **(Fig. 15)**
- Lot sizes for multi-family units should be at least 18' wide.
- The neighborhood consists of single- and two-family lots ranging upward from 30' wide, but single- and two- family lots should be 40' wide for new development. **(Fig. 16)**



Fig. 15 Lots on Elm Street show the preferred density created by the specified lot width.



Fig. 16 This is a 42' wide single-family lot, which meets the minimum width.

House

Lot Configuration

Streetscape

Greater Sullivan Neighborhood Design Guidelines

Setbacks

The setbacks in the Greater Sullivan Neighborhood display general uniformity by street but are not consistent throughout the neighborhood.

- Setbacks should meet the requirements in the City's Land Management Ordinance, Article 19-5.
- Setbacks for new development or major renovation should be consistent by street but may vary by block. **(Fig.17)**
- Setbacks should provide for a positive social space adjacent to the street. **(Fig.18)**

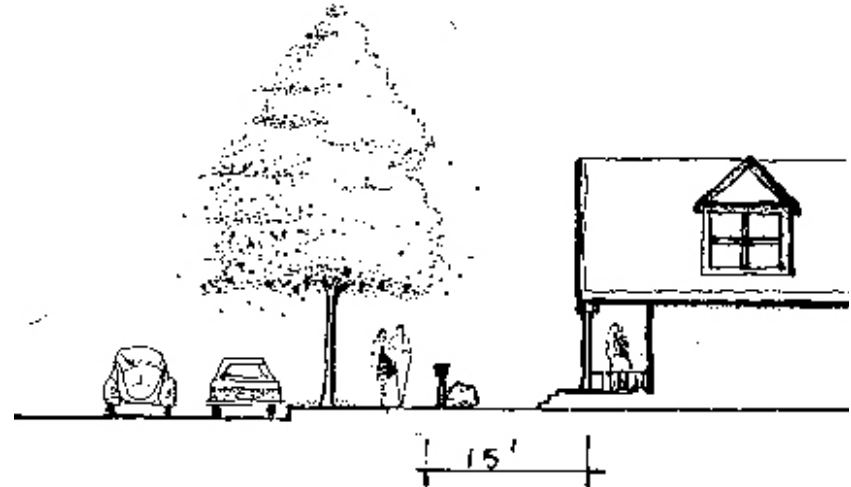


Fig. 17 This picture shows a 15' setback from the edge of the sidewalk (or the property line) to the front porch edge.



Fig. 18 Setbacks of houses along Elm Street vary from 10'-15' range.



Fig. 19 The setback of this house is 13'.

Greater Sullivan Neighborhood Design Guidelines

Driveways

The driveways present in the neighborhood are generally narrow and located on the edge of the lot line. Gravel is the most common driveway material; few driveways are paved.

- Driveways should be 8 feet to 12 feet wide, and lead to the rear of the units. **(Fig. 22)**
- Large expanses of paved areas should not be located in front of the dwelling unit. **(Fig 20)**
- Permeable driveway materials are encouraged. (D-3) **(Fig. 20, 21)**



Fig. 20 The above driveway type is discouraged because it is made of non-permeable materials and promotes parking in front of the unit.



Fig. 21 The above driveway style is often called a “country lane”. Driveway designs that contain lower percentages of impervious surface, such as the one above, are encouraged because they help reduce storm water runoff by filtering water on site.

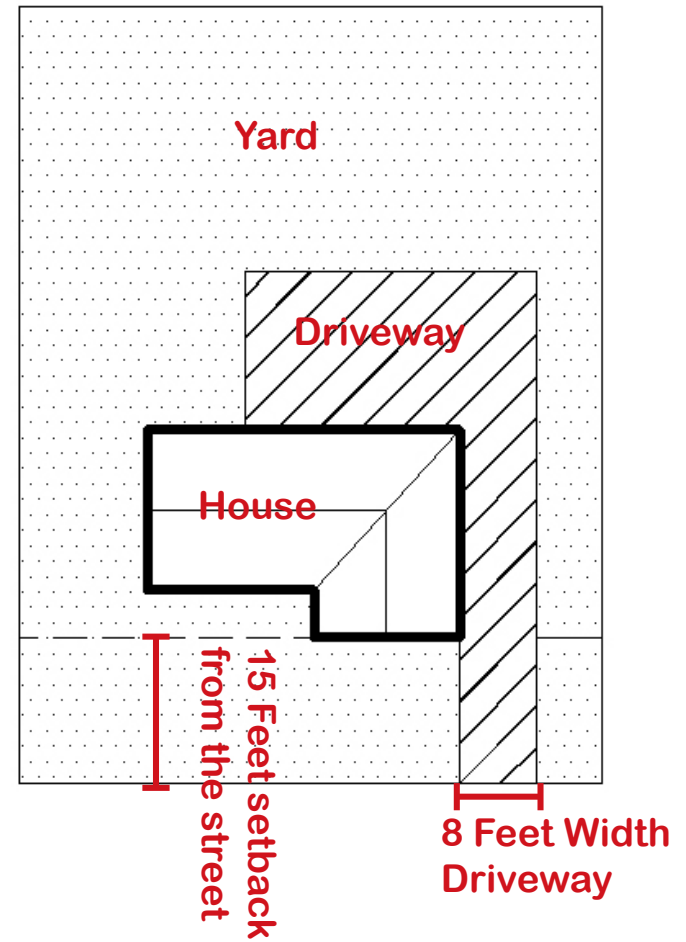


Fig. 22 The above picture shows a desirable lot and driveway layout.

Greater Sullivan Neighborhood Design Guidelines

Landscaping and Trees

Trees

- Avoid planting canopy trees within 10' of a building.
- Mulching with a depth of 2-4" around tree *root zones* is preferred over attempting to grow grass in these areas. (B-3b)
- Save summer energy costs by planting deciduous trees to the southwest and west of the house, and where they will shade air conditioning units. (B-2c)

Landscaping

- The use of native plant species is preferred to provide for local bees, birds, and butterflies, and to protect local natural vegetation. The use of invasive plant species is highly discouraged. (B-3d) (**Fig. 23, 24**)
- Where feasible, group plants by their water requirements to save on irrigation costs. Select drought-tolerant plants for a low-maintenance landscape. (B-4c) (**Fig. 23, 24**)
- Where possible, use lawn clippings and fallen leaves as mulch around plants. This protects the plants from drying and helps to maintain moderate temperatures. Mulch should never include weeds and should be laid to a depth of 2- 4". (B-3b)
- Minimize water consumption by using drip irrigation, soaker hoses, and rain barrels. (B-4b)
- Protect soil from erosion by installing plants and laying mulch. (B-3b)
- Minimize the use of plants that require high maintenance in the form of chemicals, fertilizers, pesticides, and trimming. This includes lawn grass since it usually requires irrigation, mowing, and fertilizer. (B-3)



Fig. 23 This photo illustrates an attractive alternative to lawn grass. The plants shown here are native and noninvasive plants.



Fig. 24 This patio and landscape integrates turf grass with native and noninvasive plants. The patio could be made of stones or of recycled concrete slab.

House

Lot Configuration

Streetscape



sustainable principle



local, state or federal statute *italicized words* see glossary

Greater Sullivan Neighborhood Design Guidelines

Fencing

Fencing may be used within the Greater Sullivan Neighborhood to provide an edge to property for safety and aesthetic qualities.

- Fences in the front yard should not be taller than 48".
- If fencing is used in the front yard, it should be as open and transparent as possible. (**Fig. 25, 27**)
- For increased security and to protect community conviviality, fences that do not block line of sight are encouraged. (**Fig. 25, 26, 27**)
- Fences should meet the City's Land Management Ordinance, Article 19-5.2



Fig. 26 This example is a masonry and wrought iron fence that could be used within the neighborhood.



Fig. 25 An example of a wrought iron fence that is transparent, inexpensive, and attractive.



Fig. 27 On the left is a wooden picket fence that is well maintained, transparent, and should be encouraged within the neighborhood, while on the right is a fence that is large, obtrusive, and should be discouraged from being used in the front of properties.

Greater Sullivan Neighborhood Design Guidelines

Retaining Walls

The Greater Sullivan Neighborhood features a number of residential retaining walls. Well-designed retaining walls can shape the landscape as well as enhance the overall character of the neighborhood.

- Retaining walls should not be constructed out of concrete block. **(Fig. 28, 29)**



Fig. 28 This retaining wall is at a proper scale and constructed out of attractive limestone materials.



Fig. 29 This example is another example of desirable retaining walls for the neighborhood.

House

Lot Configuration

Streetscape

Greater Sullivan Neighborhood Design Guidelines

Introduction to Streetscapes


The streets of a neighborhood are its connection to the larger community. Neighborhood streets should be designed to move cars and should also accommodate the safe and efficient movement of all users, including bicyclists and pedestrians. Streets should not be thought of solely for their function as transportation corridors but they should also be scenic pathways that enhance a neighborhood's character. The following elements are important factors in establishing this goal.

- Sidewalks
- Curb Lawns and Street Trees
- Traffic Calming
- Intersections
- Lighting and Utilities



Sidewalks are an amenity enjoyed by the Greater Sullivan Neighborhood residents which provide public spaces that encourage social interaction among neighbors, and provide safe places for residents to walk and for children to play.

The majority of the neighborhood streets have sidewalks lining at least one side of the street. While this is adequate on some streets, the neighborhood's sidewalk network is not complete. Several streets do not have any sidewalks at all. Installing new ADA (Americans with Disabilities Act) accessible sidewalks is recommended to remediate the lack of connectivity. Wherever possible, this network should connect to the larger city network of sidewalks, and trails.

 Sidewalks are made more pleasant by the addition of street trees. New and reconstructed sidewalks should allow adequate width for the preservation of existing street tree roots. At times, it may be helpful to contour the sidewalk slightly to avoid or minimize interference with tree roots. These techniques will be illustrated in the Sidewalks and Curb Lawn Sections, and also in the Appendix (B-2a).

Greater Sullivan Neighborhood Design Guidelines

Sidewalks

Sidewalk Continuity

- The City of Greenville requires that new development or reconstruction occurring on lots adjacent to the street install a minimum 5 foot wide sidewalk and a minimum 2 foot wide *curb lawn* along the frontage of the property line if these features do not exist. (See Curb Lawns Section)
- Existing and proposed sidewalks should be connected to other sidewalks within the neighborhood and to the larger city network of sidewalks and trails, where feasible. **(Fig. 30)**
- Any tree that exists in the path of a new sidewalk scheduled for installation should not be removed but preserved where possible. In this instance, the sidewalk should be poured in a manner that accommodates the tree's root base. (B-2a) **(Fig. 31, 32)**
- *Pervious* paving materials are encouraged. (D-3)



Fig. 30 Elm Street has sidewalks lining both sides of the street which continue beyond the street intersection, thus providing connectivity to the next block. The continuous sidewalk network seen on Elm Street creates a safe and inviting environment for pedestrian activity.

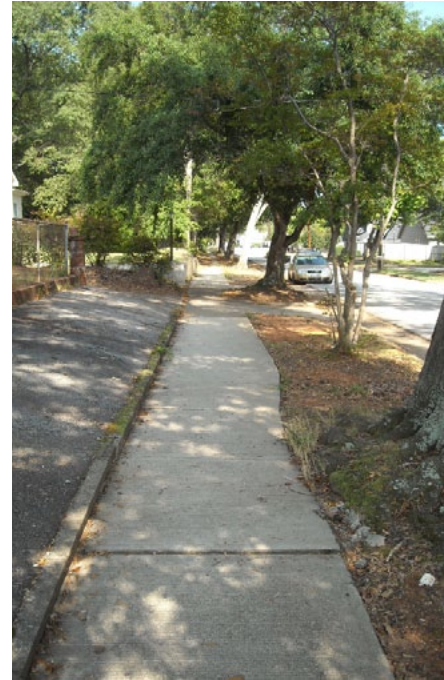


Fig. 31 This sidewalk on Otis Street has been slightly contoured to fit the base of the street tree in the curb lawn. For this large a tree specie, it would be more beneficial to both the tree and the sidewalk if there was a wider space between the sidewalk and the base of the tree. (See section on Street Trees)

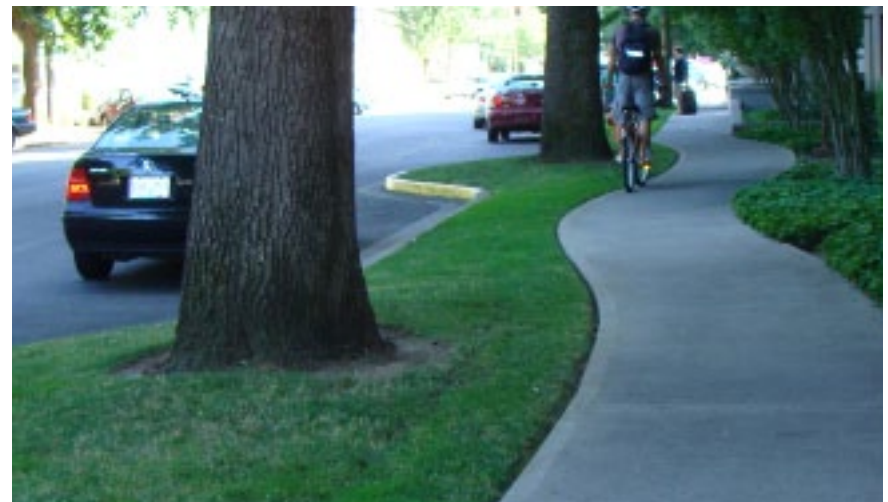


Fig. 32 This is a more obvious use of sidewalk contouring

Greater Sullivan Neighborhood Design Guidelines

Sidewalks



Fig. 33 This ADA textured curb cut ramp makes crossing the street accessible for the handicapped and the visually impaired.

- New and reconstructed sidewalks should include ADA (Americans with Disabilities Act) compliant *curb cuts*. (**Fig. 30, 31, 32, 33, 34, 35**)



Fig. 34 The lack of ADA accessible curb cut ramp at the terminus of this sidewalk makes it impossible for a wheelchair-bound individual to cross the road at this location.



Fig. 35 This sidewalk is not continuous for wheelchair access. New sidewalks installed in the Greater Sullivan Neighborhood should be continuous and handicap accessible.

Housing

Lot Configuration

Streetscape



sustainable principle



local, state or federal statute *italicized words* see glossary

Greater Sullivan Neighborhood Design Guidelines

Curb Lawns and Street Trees

Most of the sidewalks in the neighborhood have a grass or tree-lined *curb lawn* separating the sidewalk from the street, but other sidewalks have no buffers and directly abut the street or curb. Curb lawns are encouraged for stormwater filtration and/or street trees where space allows.

Curb Lawn

- It is recommended that the minimum width of curb lawns in the Greater Sullivan Neighborhood be three feet wide for the purposes of increasing natural stormwater filtration and the safety of sidewalk users from street traffic. (CD-4, D-5)
- Use of stormwater management applications in sidewalk buffers are encouraged where feasible. (D-4, D-5) (**Fig. 36, 38**)
- Curb lawns should contain street trees, shrubs, or other planting materials where feasible as turf grass alone is less desirable. (**Fig. 36, 37, 38**)

Landscaping

- Landscaping plants other than street trees in the curb lawn should not be taller than 3 feet tall to maintain clear line of sight for vehicles and pedestrians. (B-3) (**Fig. 36, 38**)
- Where grading and drainage permits, incorporate stormwater management solutions in the curb lawn. (D-4, D-5) (**Fig. 36, 38**)



Fig. 36 For curb lawns that are not wide enough to support street trees, the use of alternative landscaping materials to turf grass is encouraged. In this curb lawn, mulch and native species plants are used.



Fig. 37 Like most of the curb lawns in the neighborhood, this curb lawn is primarily grass. To enhance the aesthetic quality of the neighborhood's streetscape and provide greater opportunities for natural storm water filtration, greater diversity of plant materials utilized in curb lawns are encouraged.



Fig. 38 This curb lawn is designed to naturally filter stormwater using native grasses which require minimal maintenance.

Greater Sullivan Neighborhood Design Guidelines

Curb Lawns and Street Trees

The Greater Sullivan Neighborhood has numerous old growth trees. These trees enhance the neighborhood's streetscape, provide shade and canopy cover, and provide many environmental benefits. In some areas of the neighborhood, tree roots are causing the sidewalks to crack, which can affect ADA compliant accessibility. Selected trees should comply with the City's existing tree ordinance.

Street Trees

- Street trees should be planted so as not to interfere with or reduce the effectiveness of street lights.
- Select single trunk street trees that will not interfere with sight lines of pedestrians and vehicles. (B-2a)
- Select appropriately-sized tree species when planting in curb lawns. **(Fig. 39, 41)**
 - Tree roots lift sidewalks if they are planted too close to the sidewalk or because the soil around the tree is too compacted for root growth. To prevent damage, use *engineered soil* or structural cells to provide adequate root space for tree growth. (B-2a, D-2) **(Fig. 40)**
- Plant trees to shade asphalt roads and driveways to minimize solar heat gain and the urban heat island effect. (A-3, B-2f) **(Fig. 41)**



Fig. 39 This tree-lined streetscape provides an inviting pedestrian environment. Street trees as used in the image above are an asset to the neighborhood.




Fig. 40 When adequate curb lawn width for street tree maturation is not provided, damage to sidewalks and driveways can occur.



Fig. 41 This curb lawn contains appropriately sized trees. In addition to the curb lawn itself, street trees provide an added barrier between sidewalk users and street traffic. Choosing appropriate tree species for sidewalk curb lawn, depending on the width of the curb lawn, will help extend the life of the sidewalk by reducing the chances of cracking due to the tree roots.

The goal of traffic calming is to make streets safer and more inviting for pedestrian and bicycle activity by implementing strategies that seek to reduce vehicle speeds. Speeding automobile traffic and vehicles that frequently run through stop signs present a hazard to pedestrians and bicyclists. On streets where these problems exist, traffic calming measures should be implemented to ensure the safety of those on foot and on bicycle.

 *Speed humps* and raised intersections are two forms of traffic calming currently employed in the neighborhood as speed bumps are no longer installed by the City of Greenville Traffic Engineering Division. (For details on vertical speed reducing measures see appendix.) Reducing the width of streets is another effective method of calming traffic. The narrower the streets on which the automobile driver travels, the greater attention the driver must employ in safely navigating through tighter spaces. There are many tools that can be used to decrease traffic speed that will be discussed in this section.

Traffic calming applications are highly encouraged to be coupled with other environmentally sustainable functions such as reducing pervious pavement, planting street trees, and *stormwater* filtration.

Greater Sullivan Neighborhood Design Guidelines

Traffic Calming

Traffic Calming Measures

- Street width of new and reconstructed roads should be kept to a minimum in accordance with SCDOT guidelines for traffic volumes and speeds. Traffic calming devices should allow emergency vehicles sufficient width for passage. (**Fig. 42, 43**)
- Vertical and street-narrowing traffic calming devices should be implemented simultaneously on new and reconstructed high-volume streets and intersections as well as where speeding and inattention to stop signs frequently occurs. (C-1) (**Fig. 42,43**)
- New and reconstructed speed humps are encouraged to be used in conjunction with vegetated *curb extensions*. (C-3, C-4) (**Fig. 43**)
- *Speed tables* are encouraged for use at intersections containing crosswalks so as to act as raised crosswalks. (C-3) (**Fig. 44**)



Fig. 42 This street has been narrowed at the crosswalk with the use of curb extensions. In addition to slowing down traffic, this narrowing technique shortens the distance that pedestrians must walk to cross the street. Ideally, the curb extensions used to create this narrowing effect would contain more diverse flora and several narrow curb cuts (see Fig. 45 for illustration) so as to achieve dual objectives of increasing the aesthetic appeal of the streetscape and mitigating stormwater runoff.



Fig. 43 A landscaped curb extension was used to create a narrow section in the road. These measures, combined with the speed hump, forces the driver to slow down. Ideally, this curb extension would be designed in a manner that would enable it to collect stormwater from the road. Providing opportunities for natural water filtration via soil percolation helps to mitigate flooding and *nonpoint source* water pollution.



Fig. 44 This speed table doubles as a raised crosswalk. The speed table forces traffic to slow down at this crosswalk serving as an effective safety measure for crosswalk users.

Greater Sullivan Neighborhood Design Guidelines

Traffic Calming

- Street narrowing techniques should be utilized at new and reconstructed intersections, where feasible, in place of, or in addition to, speed humps and raised crosswalks. (C-4, C-5). **(Fig. 43, 45)**
- Where feasible, proposed curb extensions and *medians* (also known as “*center island narrowings*”) should be designed and landscaped in a manner that allows them to accommodate sustainable storm water management. (C-4, C-5, D-4, D-5) **(Fig. 45)**



Fig. 45 This vegetated curb extension contains curb cuts that allow stormwater runoff from the street to flow into the curb extension.



Fig. 46 The design of this residential street promotes high speed cut-through traffic lack of sidewalks and traffic calming measures. This kind of design is discouraged.

Housing

Lot Configuration

Streetscape

Greater Sullivan Neighborhood Design Guidelines

Intersections

Intersections should not only provide a safe crossing for motorists but for pedestrians and bicyclists as well. Currently, there are no striped *crosswalks* in the neighborhood. Not only do crosswalks provide *continuity* of pedestrian flow from the sidewalk to sidewalk, but they can serve as a visual traffic calming measure by alerting motorists that pedestrians may be crossing.

Crosswalks

- At a minimum, all new and reconstructed intersections should contain a striped crosswalk that exhibits maximum visibility. (C-2, C-3) **(Fig. 48)**
- Textured paving materials are preferred over striping. (C-2) **(Fig. 47, 50)**
- Visibility at intersections should be maintained by keeping the line of sight clear of plantings, fixtures, signs, etc. that will block visibility. **(Fig. 47)**
- Plantings at or near intersections should not be taller than 3 feet to maintain a clear line of sight for drivers and pedestrians approaching the intersections.



Fig. 47 Brick is a tasteful and useful material that is often used to provide visible texture to a pedestrian crosswalk, creating awareness for pedestrians and auto drivers. Brick used at this pedestrian crosswalk effectively alerts drivers and pedestrians crossing the street at this location. The crosswalk sign and the posted speed limit sign are also clear indicators to drivers.



Fig. 48 Although it is better to have an intersection that contains a striped crosswalk than one that is void of any markings or pavement variation whatsoever, the more conspicuous pattern of the crosswalk in the picture on the right is preferred for increased pedestrian safety.



Fig. 49 The striped pattern of this crosswalk draws the attention of drivers more easily than the crosswalk in the picture to the left. A conspicuous crosswalk will better protect pedestrians from drivers who might otherwise run through the intersection.



Fig. 50 Different designs or patterns of crosswalk materials can add unique character to the neighborhood's streetscape in addition to serving its purpose as a traffic calming and safety measure. Such creativity of sidewalk design is encouraged for application in the Greater Sullivan Neighborhood.

Greater Sullivan Neighborhood Design Guidelines

Lighting and Utilities

Lighting

Lighting is an important part of the Greater Sullivan Neighborhood design guidelines. Properly lit streets are important to the safety and security of the neighborhood. Lighting fixtures can also be used to improve the aesthetic qualities of the neighborhood.

- The style of lighting fixtures should be consistent with the styles and character of architecture in the Greater Sullivan Neighborhood.
- No flickering or flashing lights should be permitted.
- Lighting fixtures should provide a uniform distribution of light to produce minimal shadows and light pollution.
- Lighting fixtures should be vandal-proof.
- Lighting fixtures should be scaled, with both dimension and intensity to complement its location context. **(Fig. 51, 52)**
- Landscaping should not obscure lighting.
- Lighting should comply with the City's Land Management Ordinance 19-6.8.4(F)]
- Lighting fixtures should utilize LED technology for energy efficient.

Utilities

Above ground utilities are a concern of the neighborhood. Weather events can create hazards with above ground utility lines. There have been several storms with wind and ice that have detached the utility lines from the poles and created safety hazards within in the neighborhood. Additionally, buried power lines avoid conflict with above ground tree growth, reducing the need for tree trimming and pruning.

- Utilities should be placed under the ground.

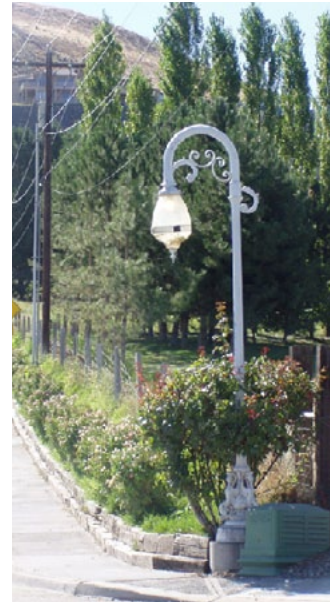


Fig. 51 An example of an acceptable lighting fixture for the neighborhood.



Fig. 52 This lighting fixture should be encouraged to be used within the neighborhood. It is in scale with the street, attractive, and will provide a desirable addition to the streetscape.



Fig. 53 An example of an acorn style residential lighting fixture that could be used within the Greater Sullivan Neighborhood.



Fig. 54 This lighting fixture is not to scale with the neighborhood or streetscape, will produce excess light pollution, and should be discouraged from the neighborhood.

Greater Sullivan Neighborhood Design Guidelines

Appendix

Street Inventory

Street Name	Street Width	Sidewalk Width	Distance Set back from Street	Lot Width	Building Width
Augusta	N/A	6'	40'	N/A	N/A
Bolt	12'	N/A	40'	30'	N/A
Dean	16'	N/A	8'	30'	N/A
Elm	26'	5'	N/A	60'	43'
Dobbs	12'	N/A	9'	45'	22'
Guess	30'	5'	25'	80'	35'
Hill	21'	N/A	N/A	81'	36'
Ladson	24'	5'	43'	50'	N/A
Mission	36'	5'	43'	50'	35'
Otis	26'	5'	30'	100'	40'
Park	24'	N/A	16'	80'	35'
Ridge	19.5'	3'	21'	78'	21'
Sullivan	21'	6'	15'	52'	31'
Trotter	16'	N/A	8'	N/A	N/A
Wilkins	23'	3'	17'	34'	27'

- **Bulbout:** see **curb extensions**
- **Center island narrowing** (also known as a median): A center island narrowing is a raised island located along the center line of a street that narrow the travel lanes at that location. Center island narrowings are often landscaped to provide a visual amenity.
- **Chicanes:** A chicane is an S-shaped curve in the vehicle driving path. It can also be called a deviation, serpentine, reversing curve, or twist.
- **Crosswalk:** Street crossing where pedestrians have right of way; often marked in some way (often painted or distinguished with textured pavement).
- **Continuity:** The state or quality of being continuous.
- **Curb cut:** A small ramp built into the curb of a sidewalk to ease passage to the street, especially for bicyclists, pedestrians with baby strollers, and physically disabled people. Curb cuts are also used to allow stormwater to flow from the street into management applications such as bioswales or rain gardens.
- **Curb extensions:** A curb extension or bulb-out is a traffic calming measure, intended to slow the speed of traffic and increase driver awareness, particularly in built-up and residential neighborhoods. They also allow pedestrians and vehicle drivers to see each other when vehicles parked in a parking lane would otherwise block visibility.
- **Energy Star:** A US government program that sets standards for energy efficiency in consumer, industrial, and construction products and practices.
- **Fenestration:** (architecture) The arrangement of windows etc in a building.
- **Green roof:** Green roofs are rooftops planted with vegetation. Intensive green roofs have thick layers of soil (6 to 12 inches or more) that can support a broad variety of plant or even tree species. Extensive roofs are simpler green roofs with a soil layer of 6 inches or less to support turf, grass, or other ground cover.
- **Impervious surfaces:** An impenetrable layer. For this document, impervious or impermeable refers to an area, such as a roof or parking lot, which does not let water soak into soil. Some soils also are naturally relatively impervious, e.g. heavy clays absorb water for a time but, once saturated, absorb no more.
- **Infiltration:** Percolating into or through another substance, e.g. rain filtering into soil, or water percolating out of soil into a drainage pipe.
- **Massing:** A term used to define the over all volume or size of a building.
- **Solar Reflective Index (SRI):** SRI is a value that incorporates both solar reflectance and emittance in a single value to represent a material's temperature in the sun. SRI quantifies how hot a surface would get relative to standard black and standard white surfaces. (epa.gov)
- **Speed humps:** A rounded traffic calming device used to reduce vehicle speed and volume on residential streets.
- **Speed tables:** A traffic calming device designed as a long speed hump with a flat section in the middle. Speed tables are generally long enough for the entire wheelbase of a passenger car to rest upon.
- **Stormwater:** Water that accumulates on land as a result of rain events, and often refers to runoff from urban structures, such as roads and roofs.